

European Congress of Cytopathology 2023

FNA ROSE case presentations

Leonie Wheeldon

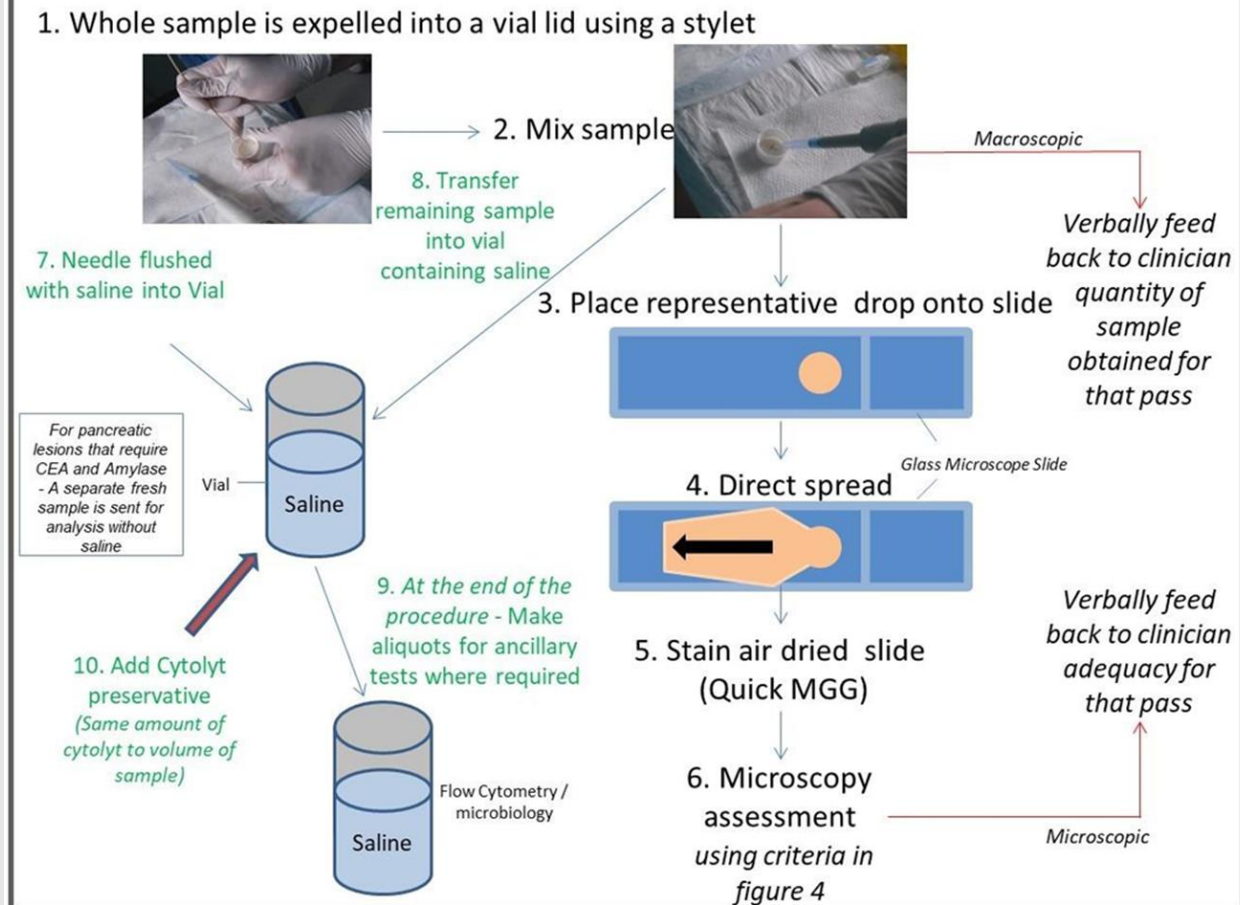
Consultant Biomedical Scientist diagnostic cytopathology
Executive for the British Association for Cytopathology

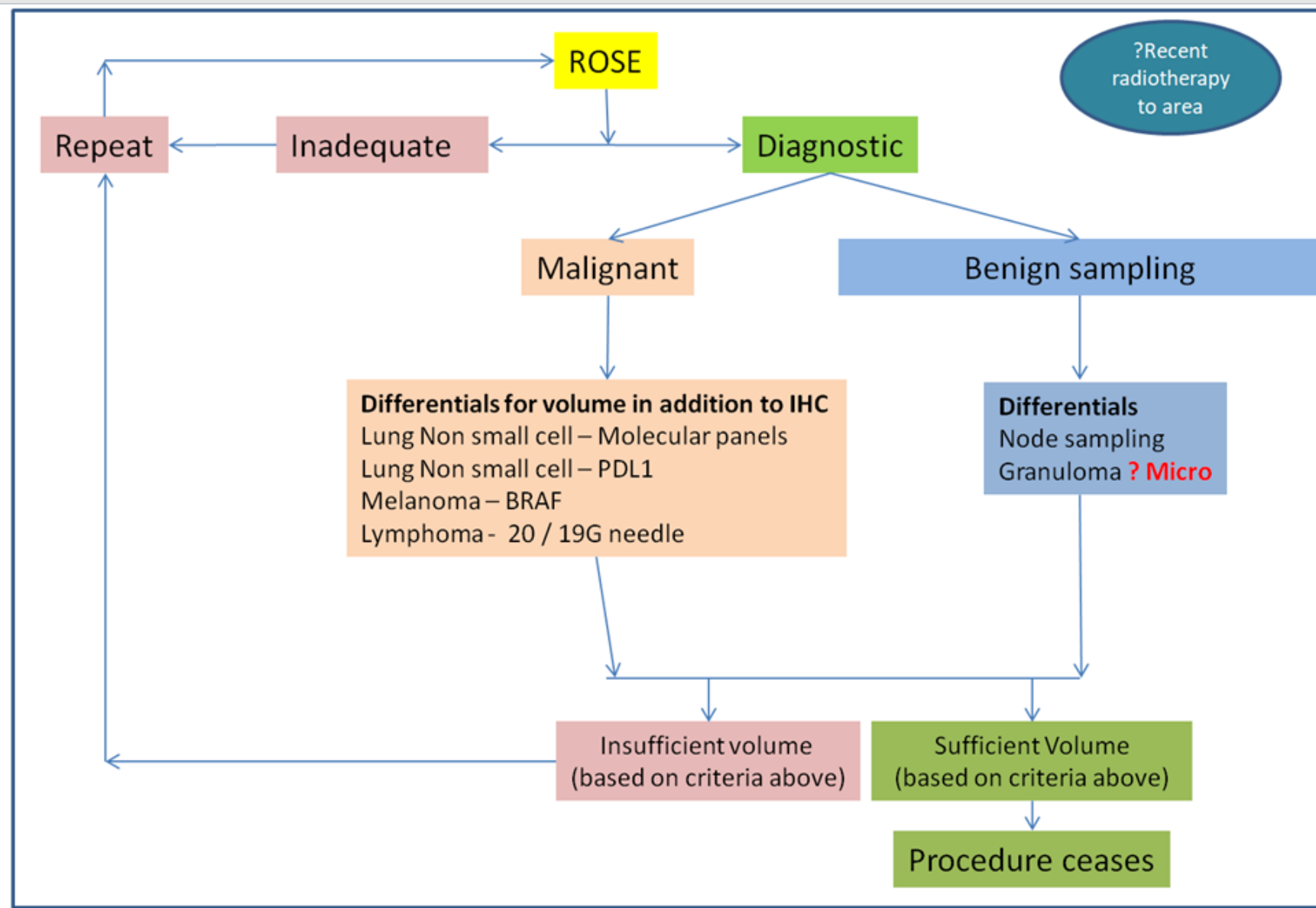
Diagnostic Cytopathology Royal Cornwall Hospital UK

BMS led ROSE service

Head and neck, Thyroid, Lung/EBUS, EUS
Remote ROSE for head and neck

Schematic instructions for performing for ROSE SSA technique.



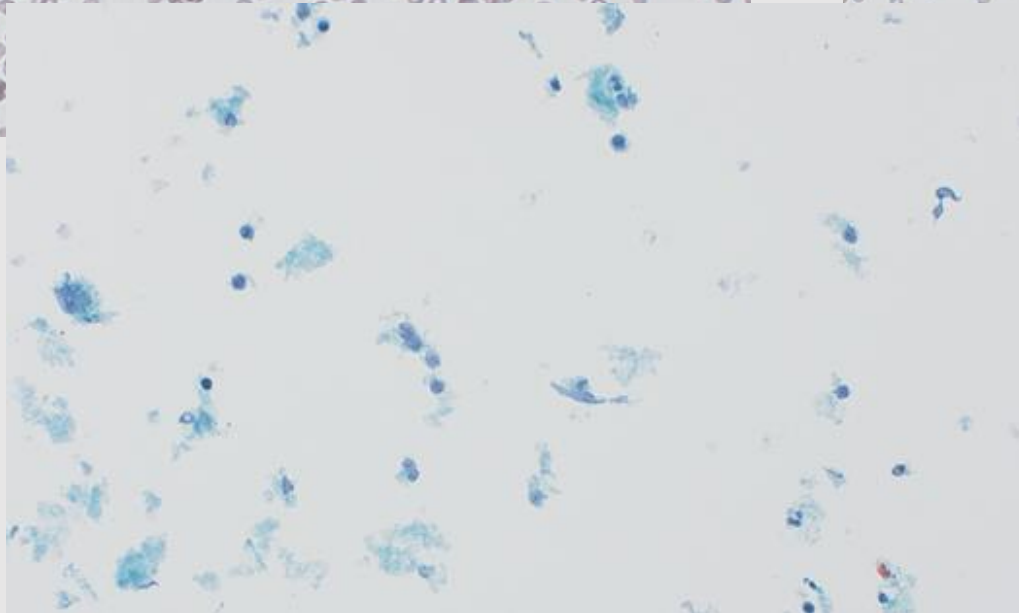
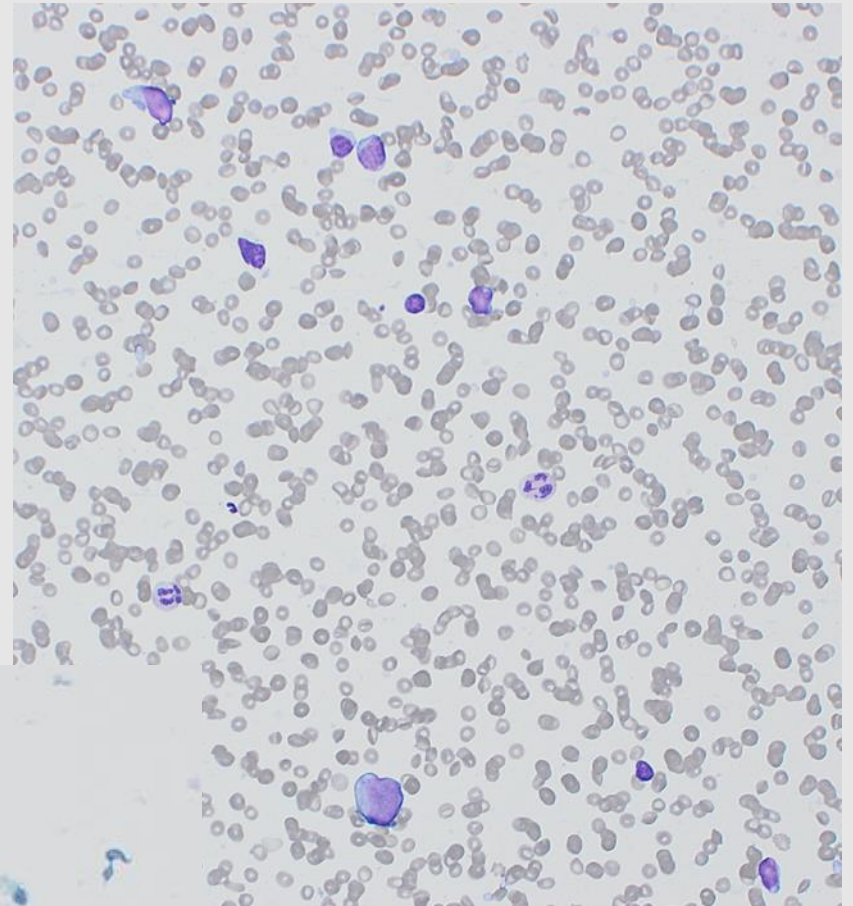
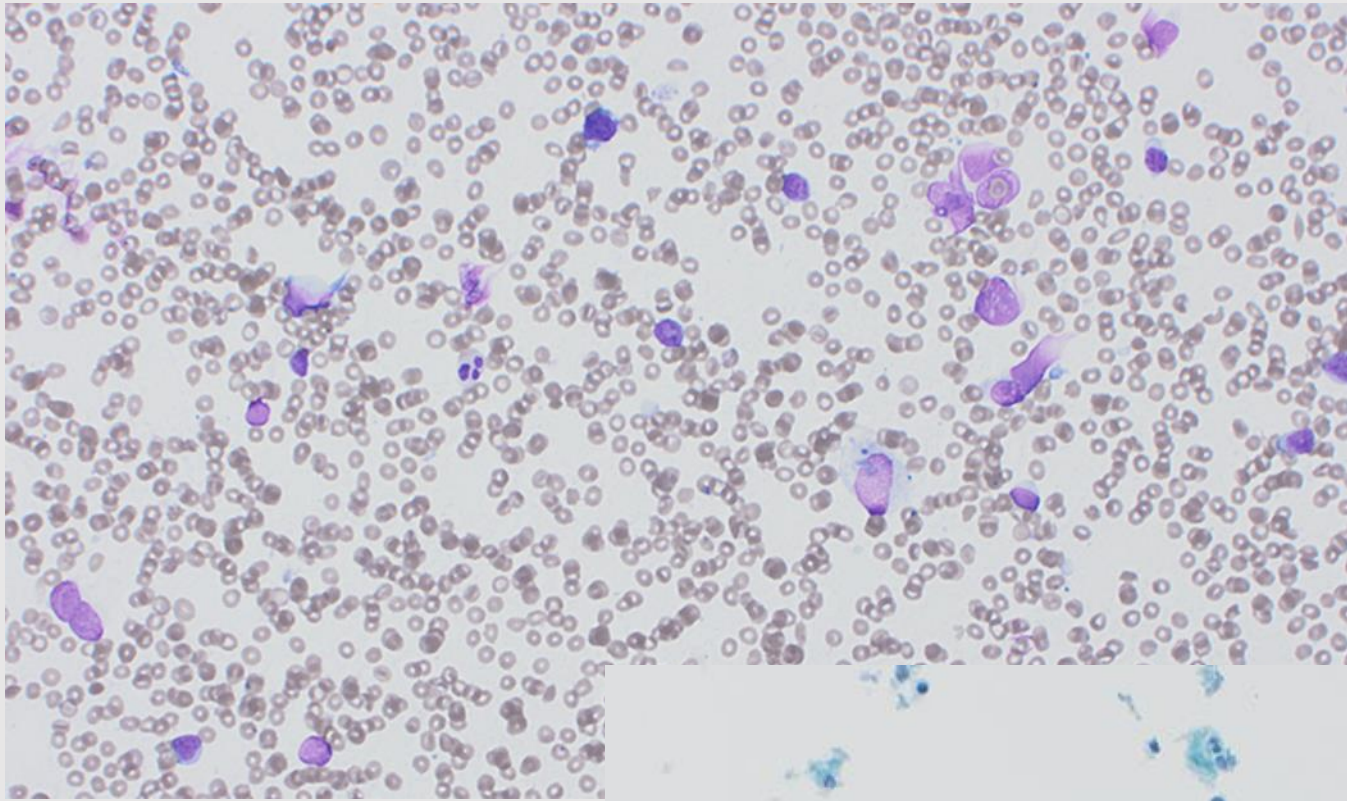


Case 1

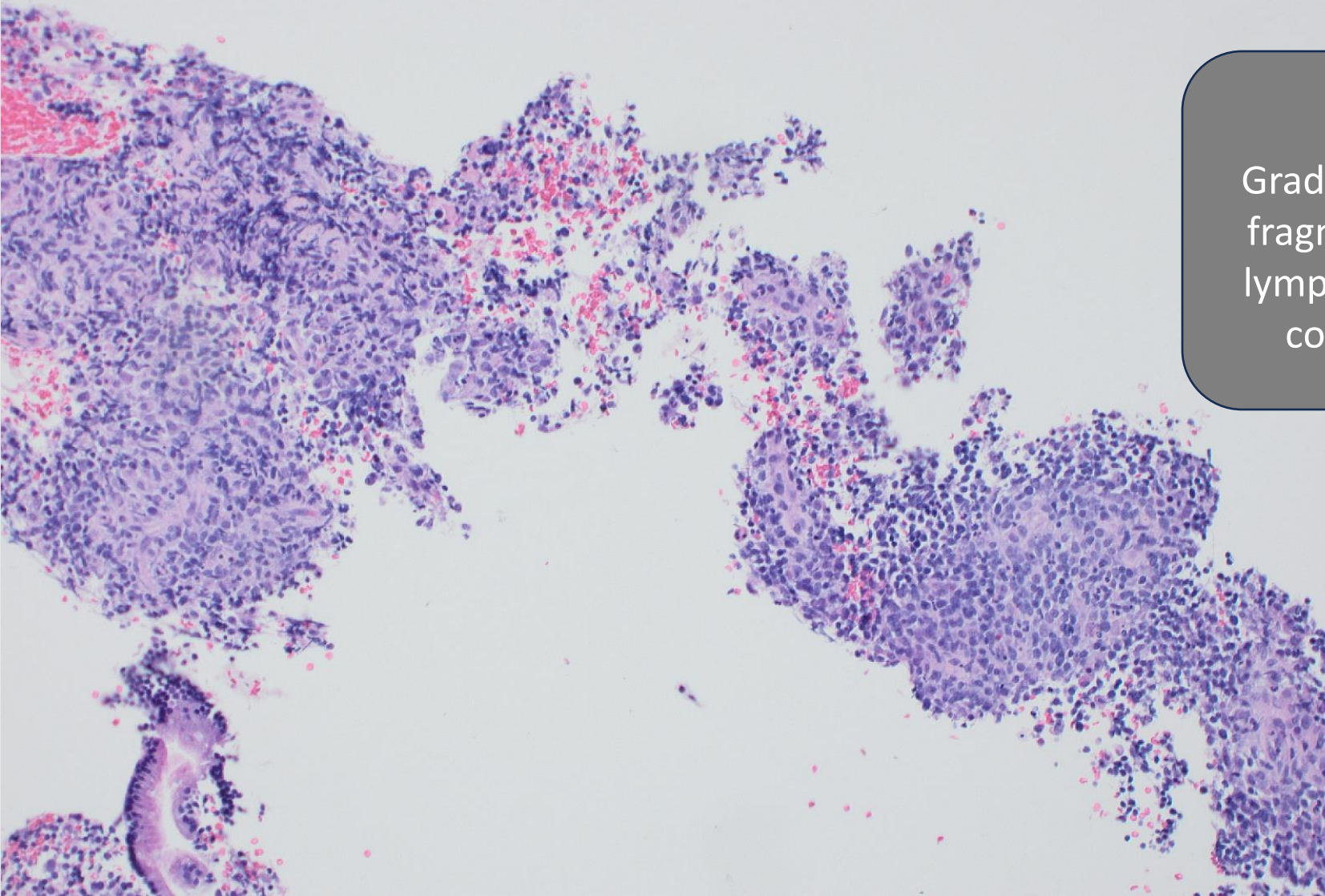
Female 78 years

Low grade B cell follicular lymphoma since 2013

Sept 2022 - EUS pancreatic lesion – B cell follicular lymphoma



19G needle



Grading was difficult because of fragmentation - B cell follicular lymphoma – HG transformation could not be fully excluded

Treated with R-CVP (Chemoimmunotherapy and steroids)

Good result after 3 cycles but progression after 6 cycles

Growth of known pancreatic lesion, multiple hepatic metastases throughout the liver and pulmonary mass enlargement.

MDT discussion – Treat as high grade transformation or obtain further sampling / route to sampling?

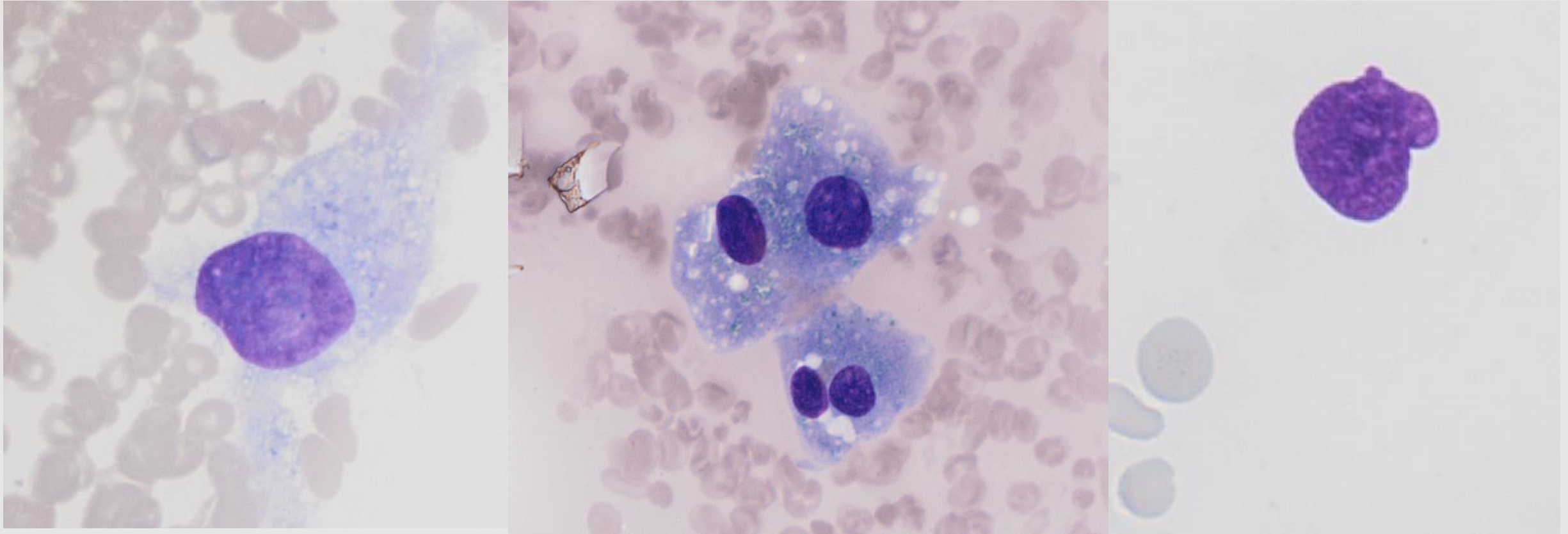
Pulmonary mass was biopsied – organising pneumonia

BMT - No evidence of lymphomatous involvement

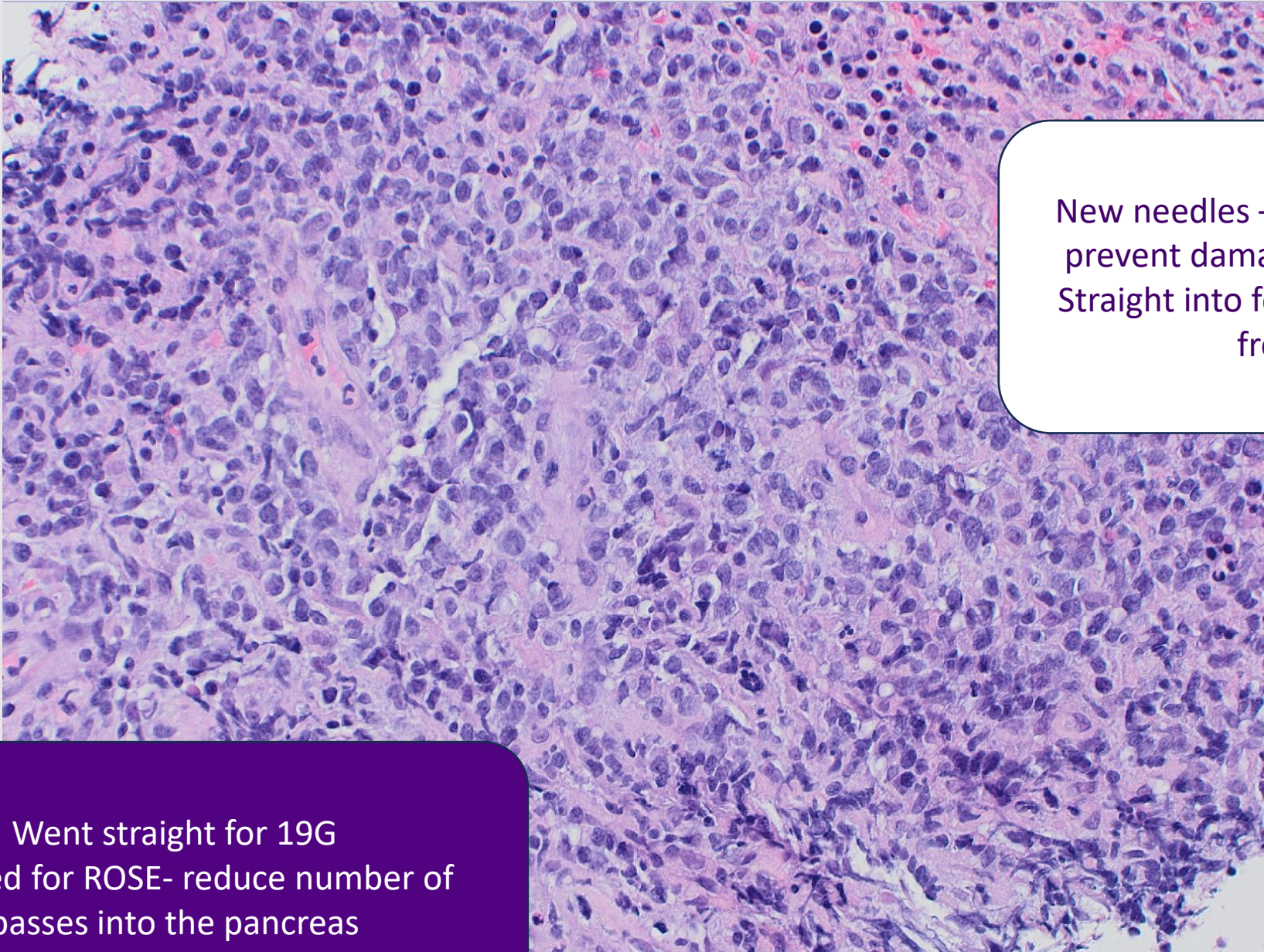
Sample liver lesions

Liver sampled via EUS with ROSE

X 2 passes – Technically challenging to sample – ROSE insufficient sampling



Pancreas



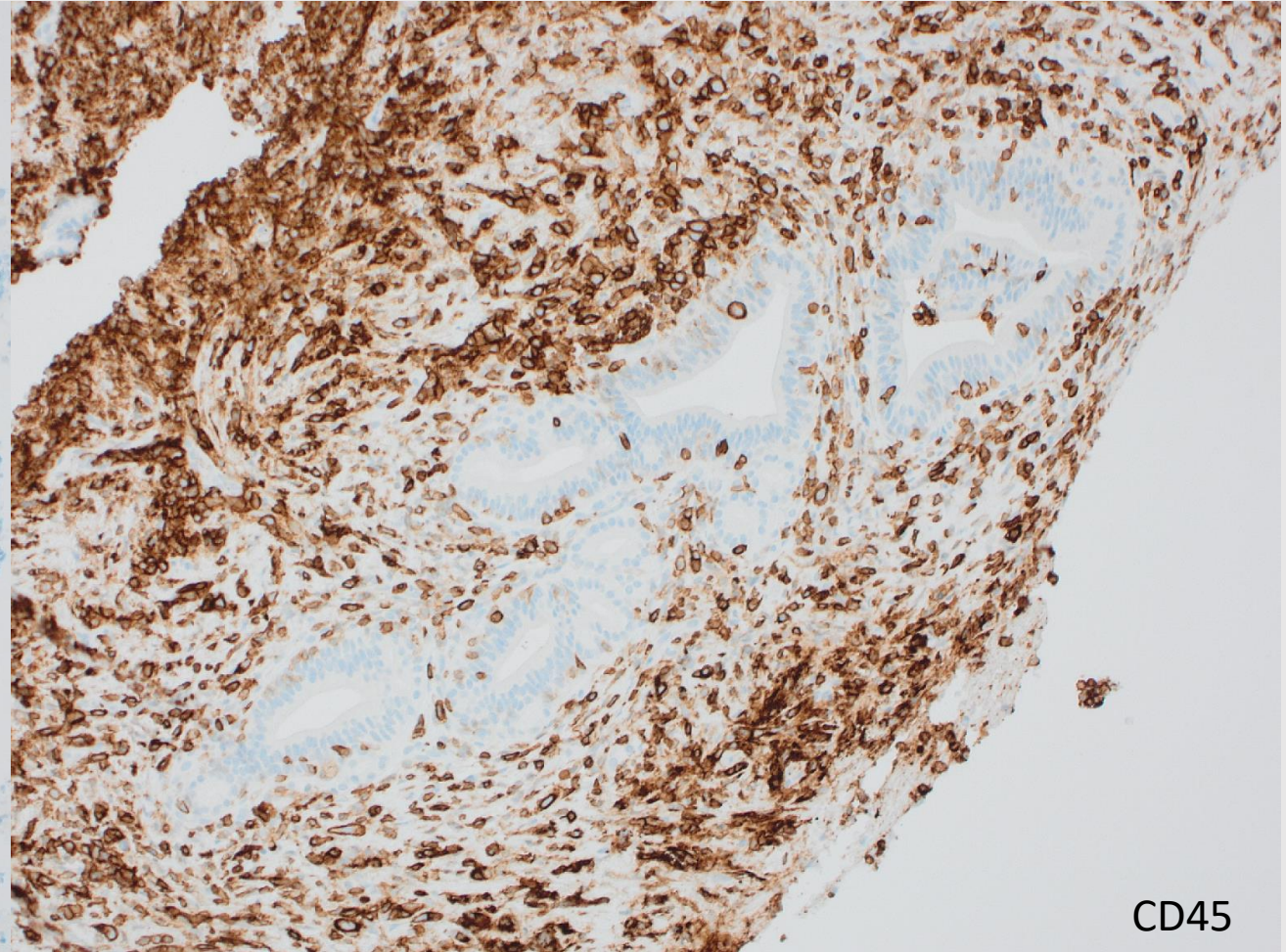
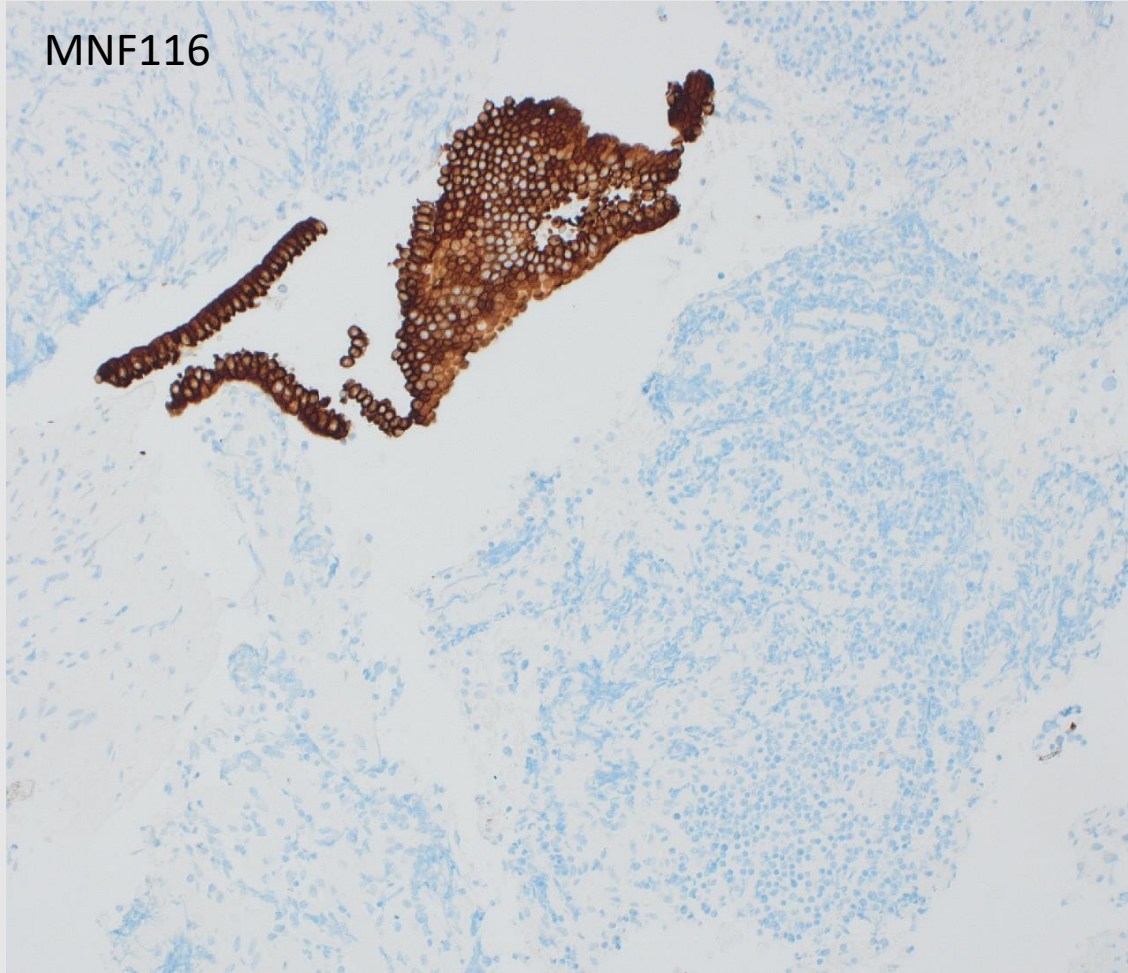
New needles – flushed with saline to prevent damage and fragmentation
Straight into formalin – no shrinkage from alcohol

Sometimes the decision might be not to ROSE

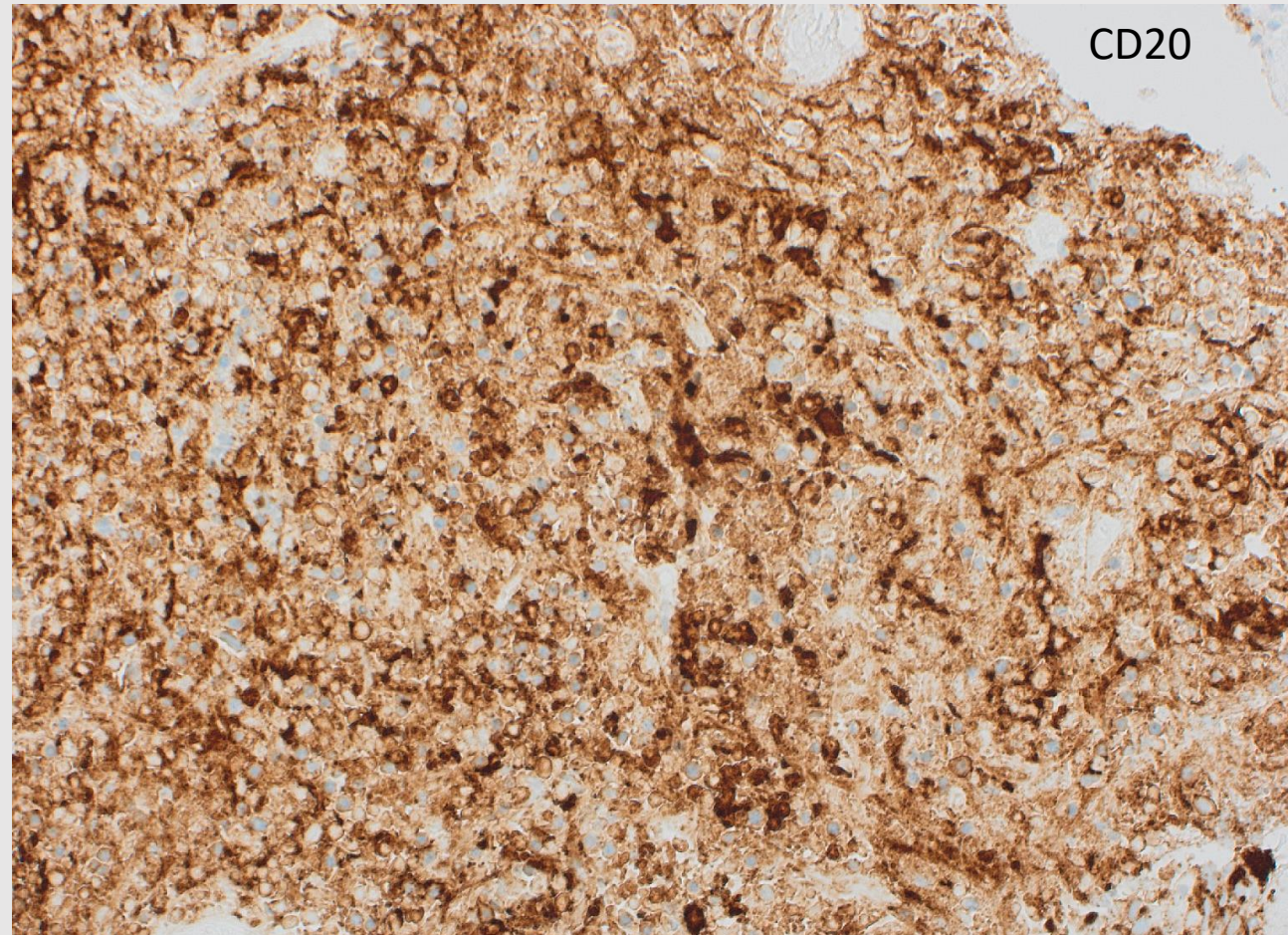
Went straight for 19G
No need for ROSE- reduce number of passes into the pancreas

Pancreas 19G

MNF116

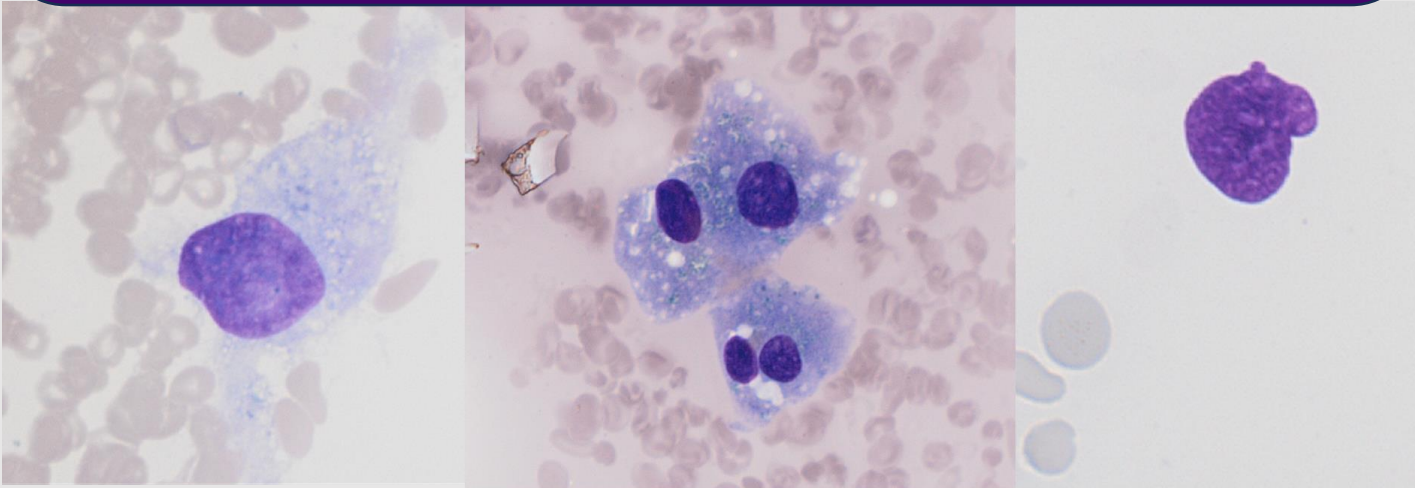


CD45

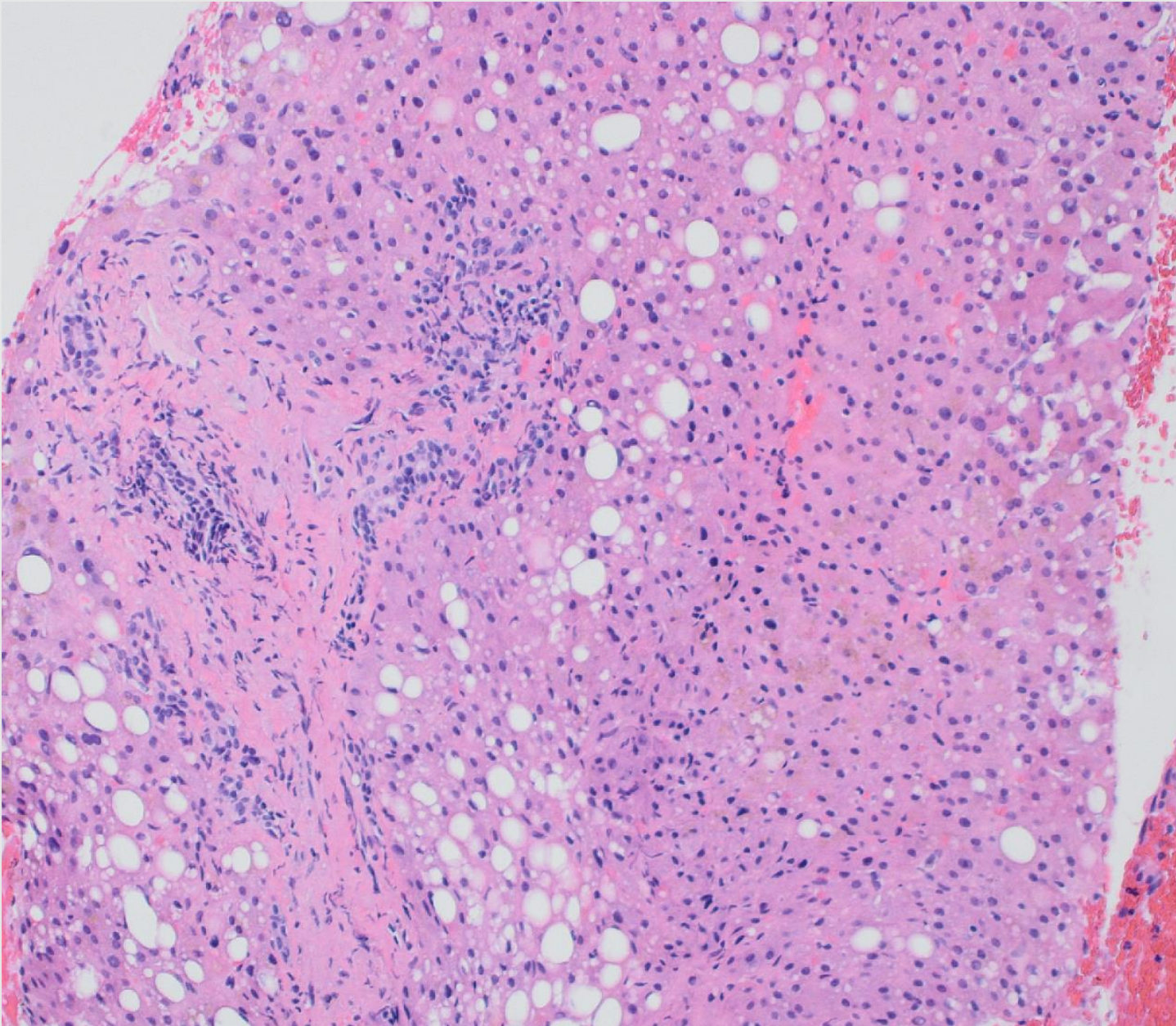


The morphological and immunoprofile are in keeping with the already known lymphoproliferative disorder. There is extensive necrosis in the sample which is likely to represent response to treatment.

Despite being insufficient on ROSE we still routinely make a cell block from the residual material



[Human Liver Photograph by Pixologicstudio - Fine Art America](#)



Liver Cell block

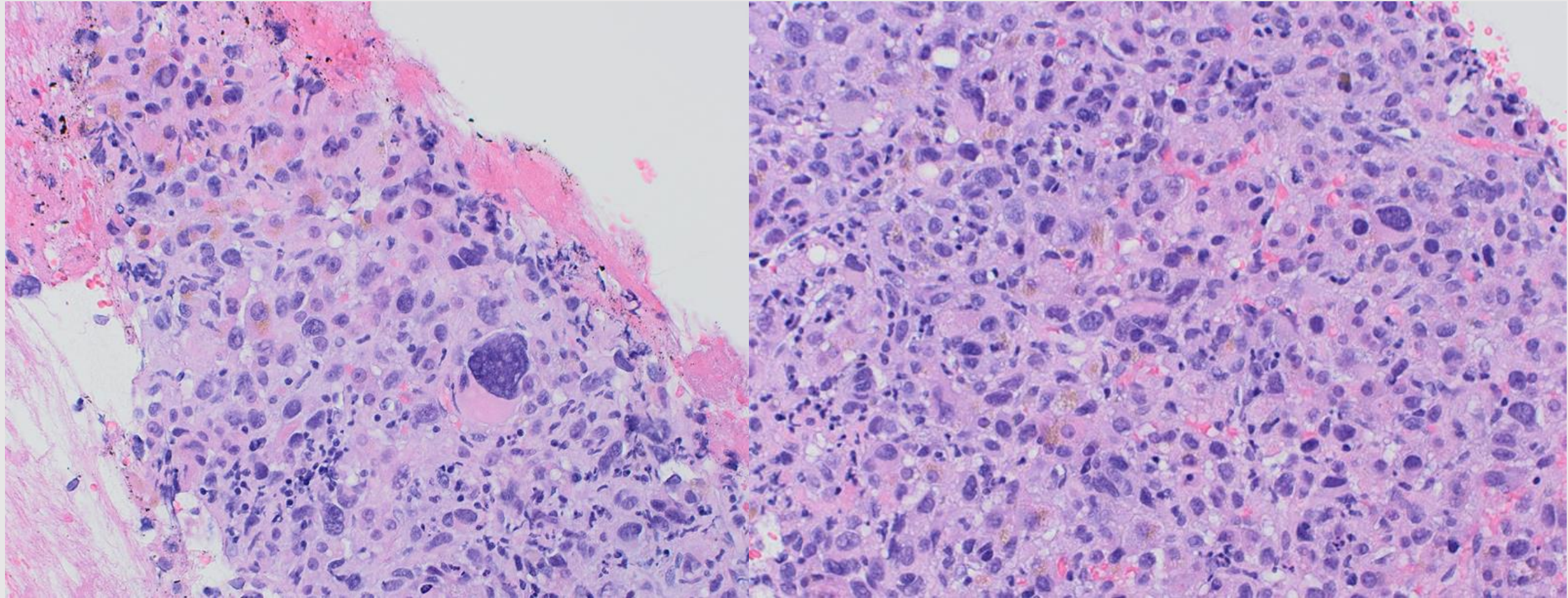
Fatty liver disease

No malignant cells

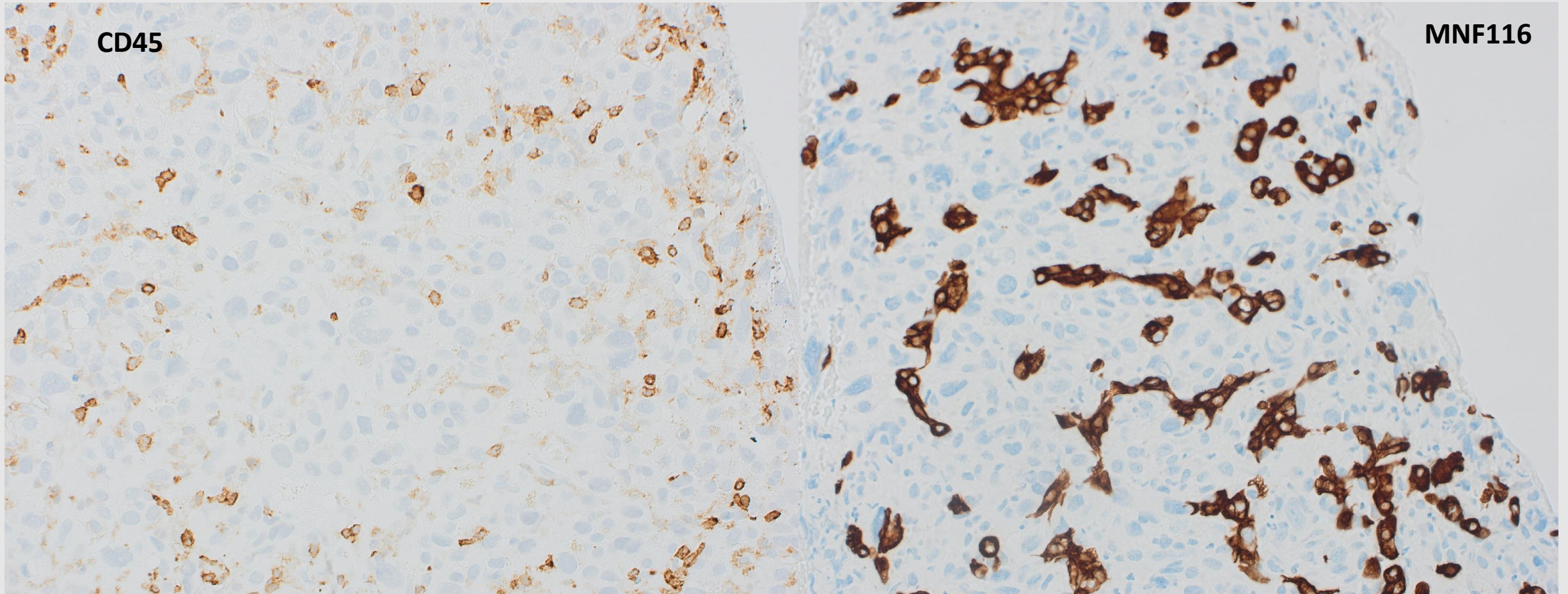
Hepatocytes

No significant lymphoid
population

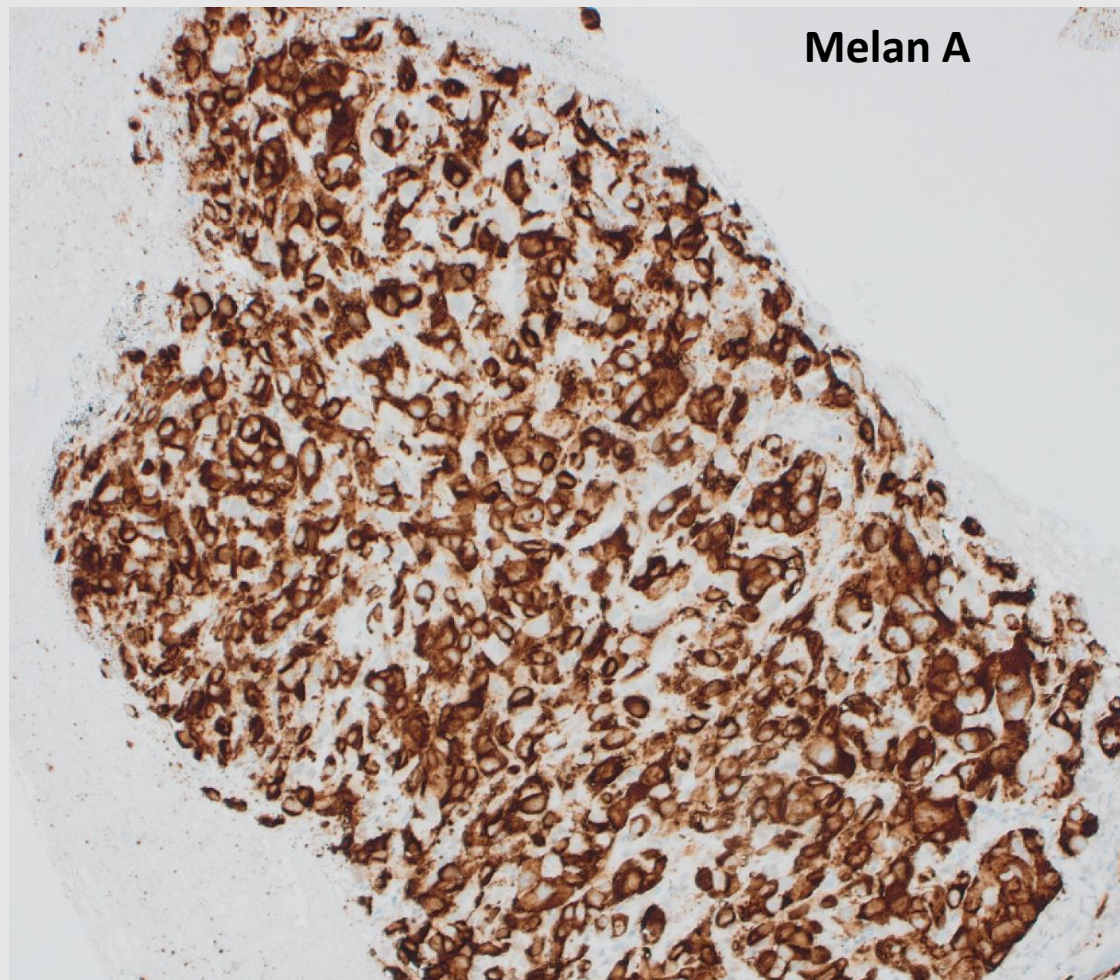
Cell block - liver



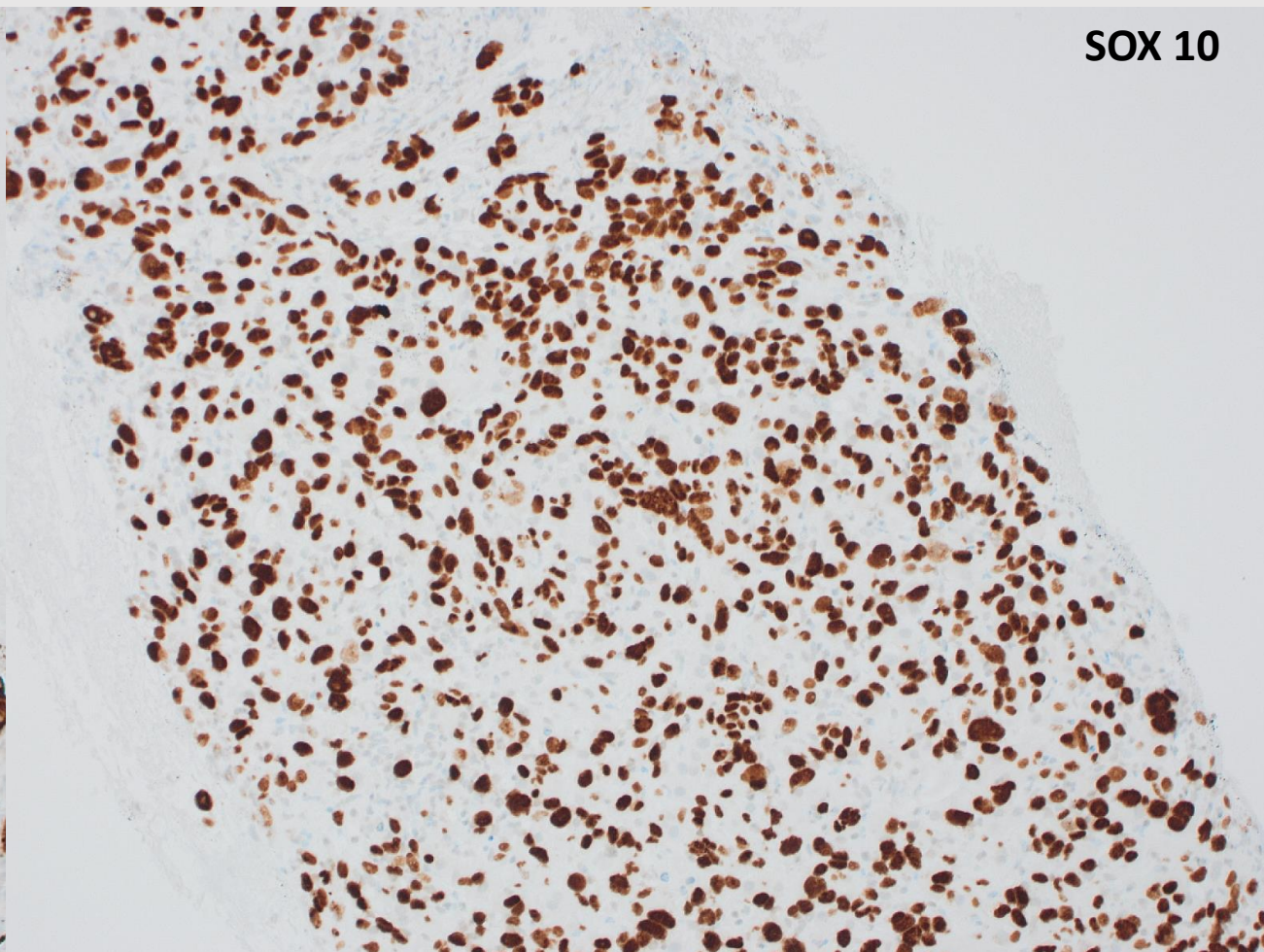
Liver cell block



Liver cell block



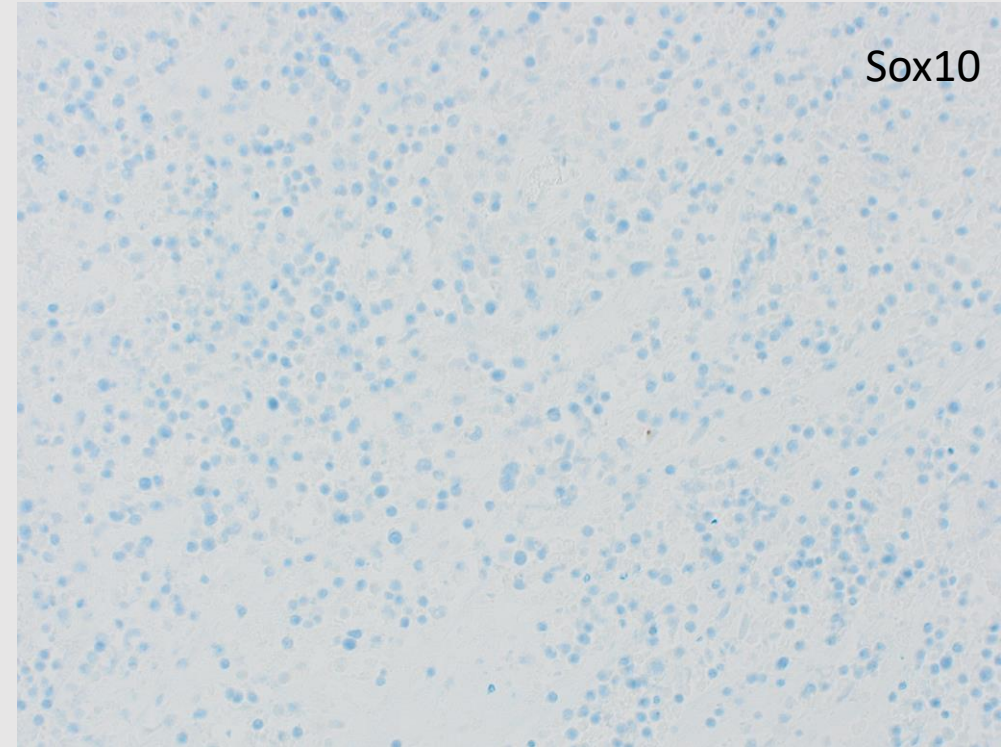
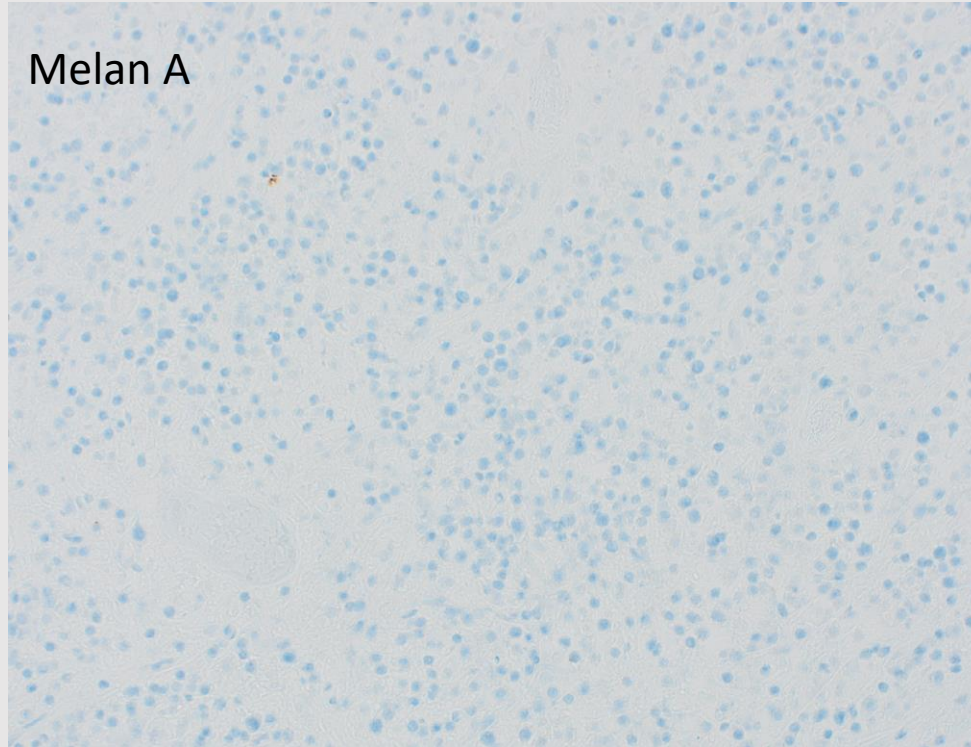
Melan A



SOX 10

Patient had a very early-stage Melanoma excised - left eyebrow in March 2022. Declined WLE

Pancreas - 2nd round



There is no evidence of metastatic melanoma in the pancreatic sample

EUS Pancreas: Follicular lymphoma with extensive necrosis
suggestive of treatment response

EUS Liver: Metastatic melanoma - BRAF testing - Negative

For Pembrolizumab immunotherapy Intent: Disease
response and control

Sadly, the patient passed away in July 2023

Key points

Full information regarding history and previous sampling is essential prior to ROSE

Use larger needles for lymphoid populations

Process all the residual material even if the sample is non-diagnostic or only contains a few cells at ROSE

Change of contaminated consumables between sites

Accuracy of sample labelling

Case study 2

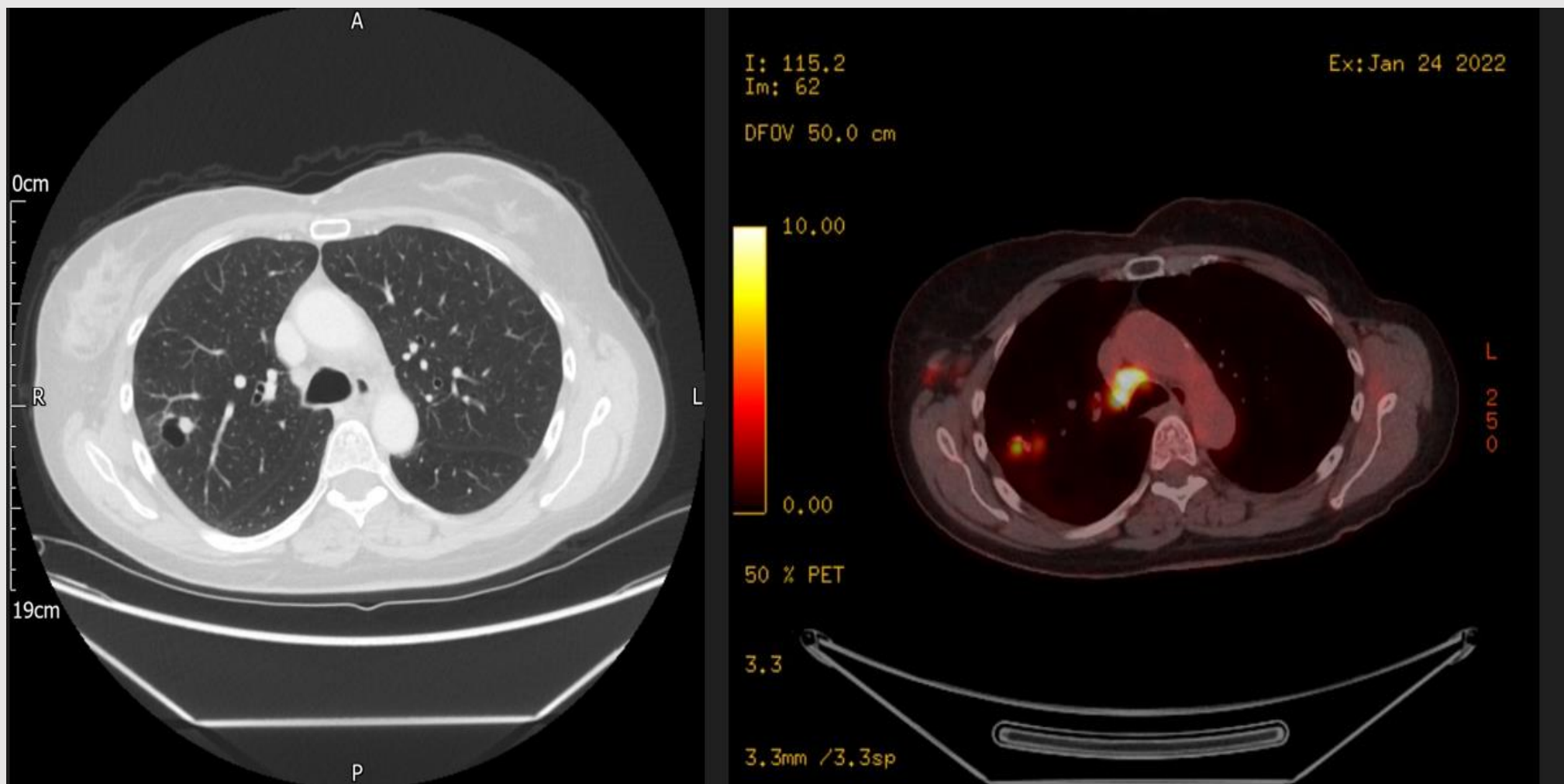
Female 69 years

Complex history.

pT2pN1a Triple negative breast Cancer – 2009 treated by surgery, adjuvant chemotherapy and adjuvant RT

Low grade Follicular lymphoma – Axilla 2014 treated with Rituximab / Bendamustine – Remission 2017

2022



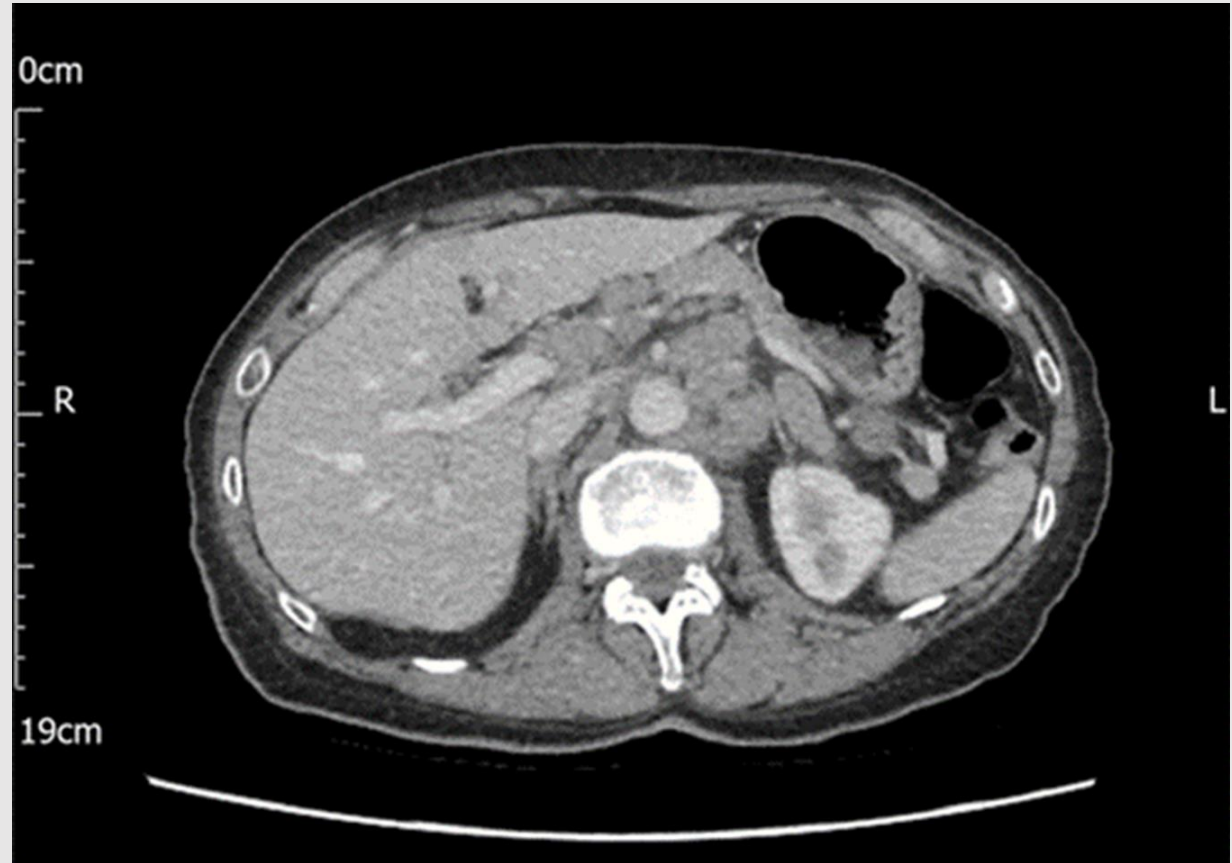
Lung post



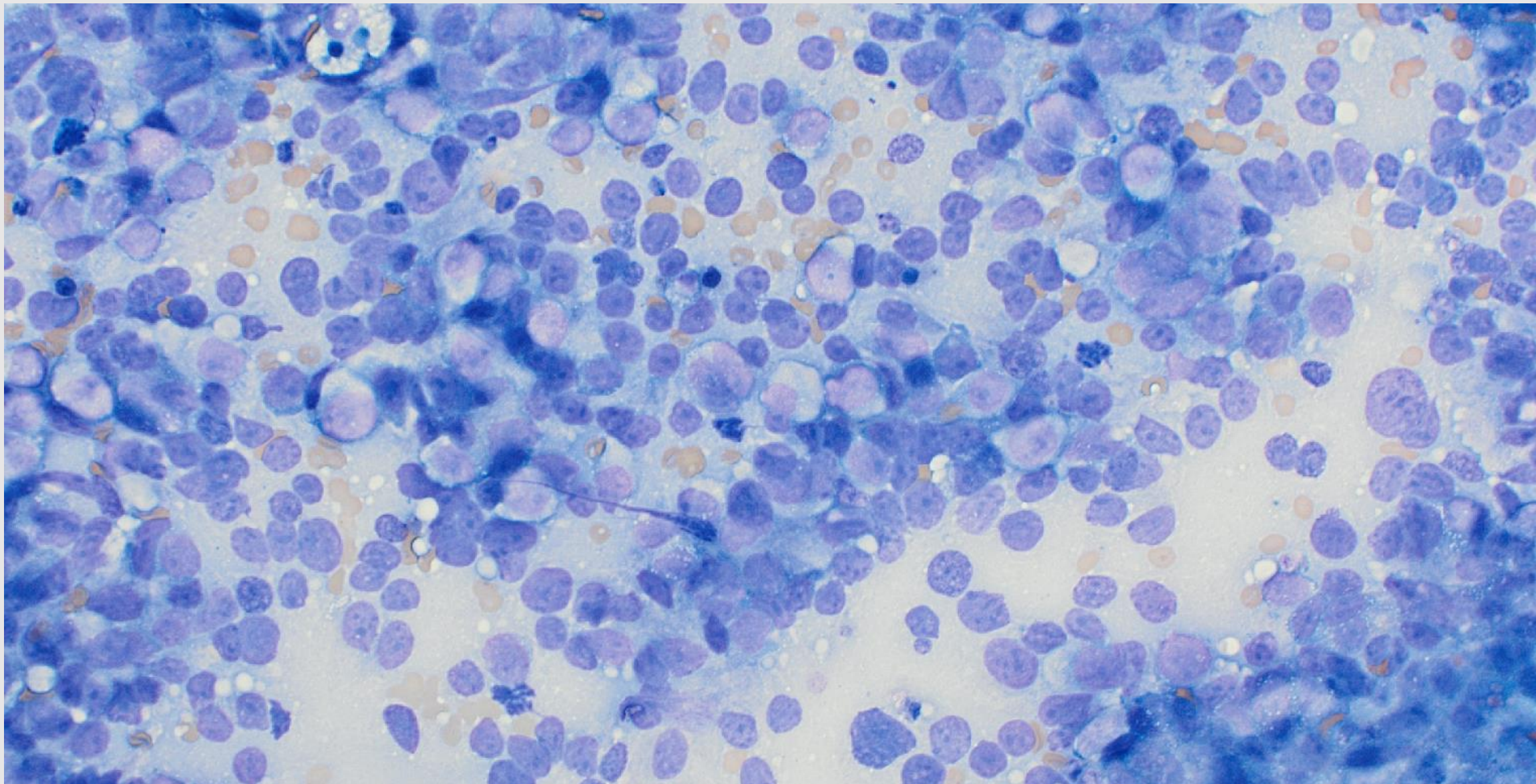
2022 - EBUS T3 N3 lung
adenocarcinoma. EGFRm - / ALK - /
Ros1 - / PDL1 0% / KRAS wild
Carboplatin-Pemetrexed-
Pembrolizumab
Chemoimmunotherapy

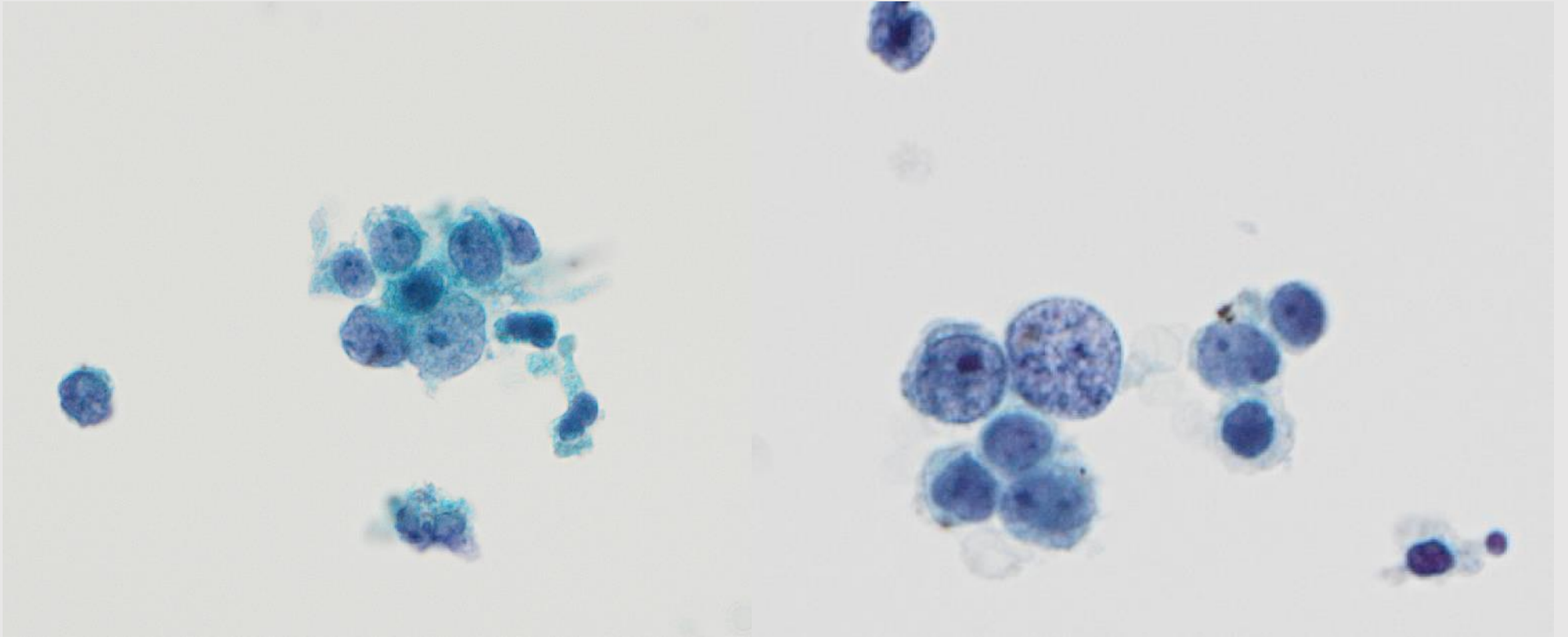
CT: Multiple abdominal nodes. ? Lymphoma - clinically

2 different disease processes? –
Lung, Lymphoma, Breast
carcinoma
EUS peri gastric node

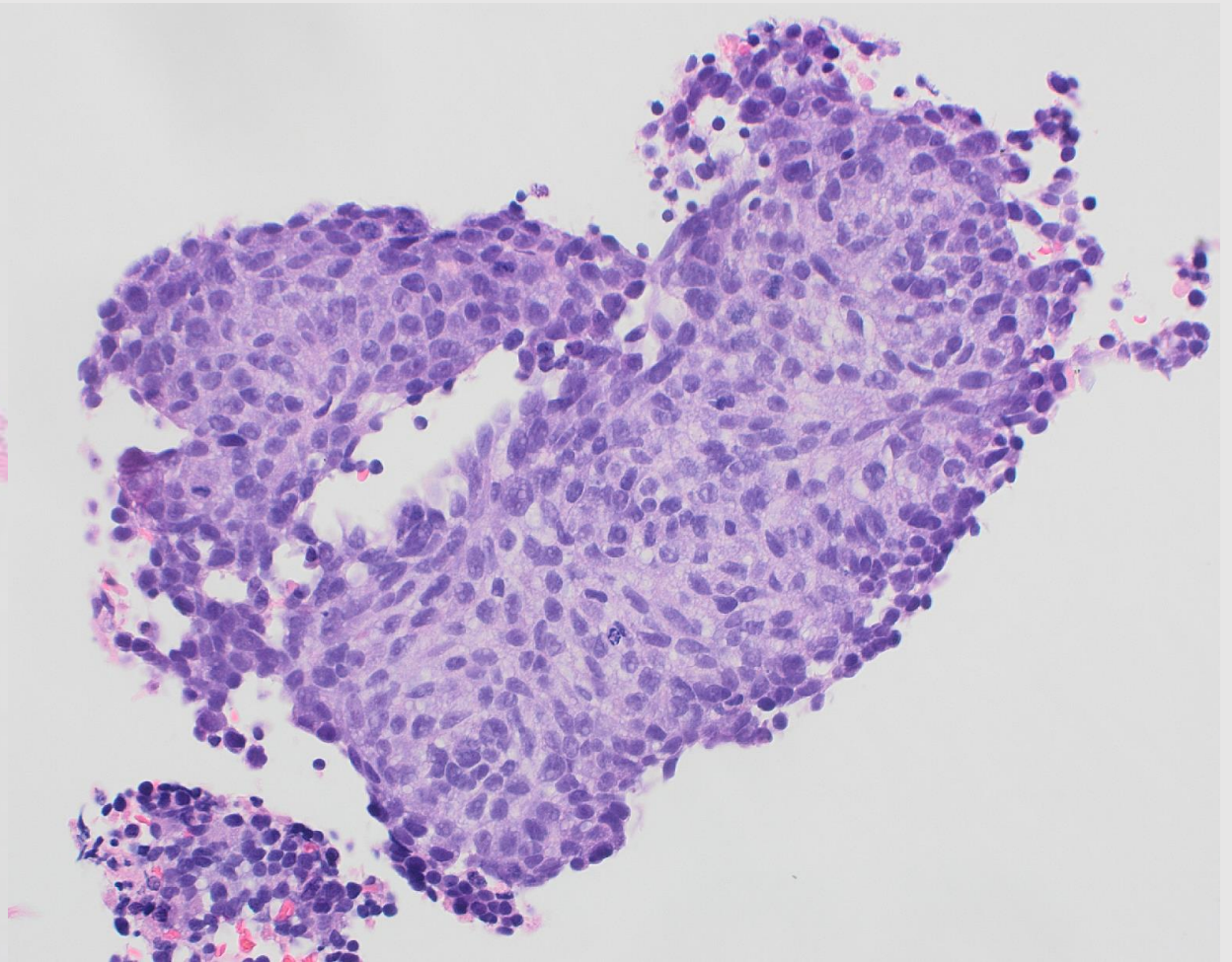
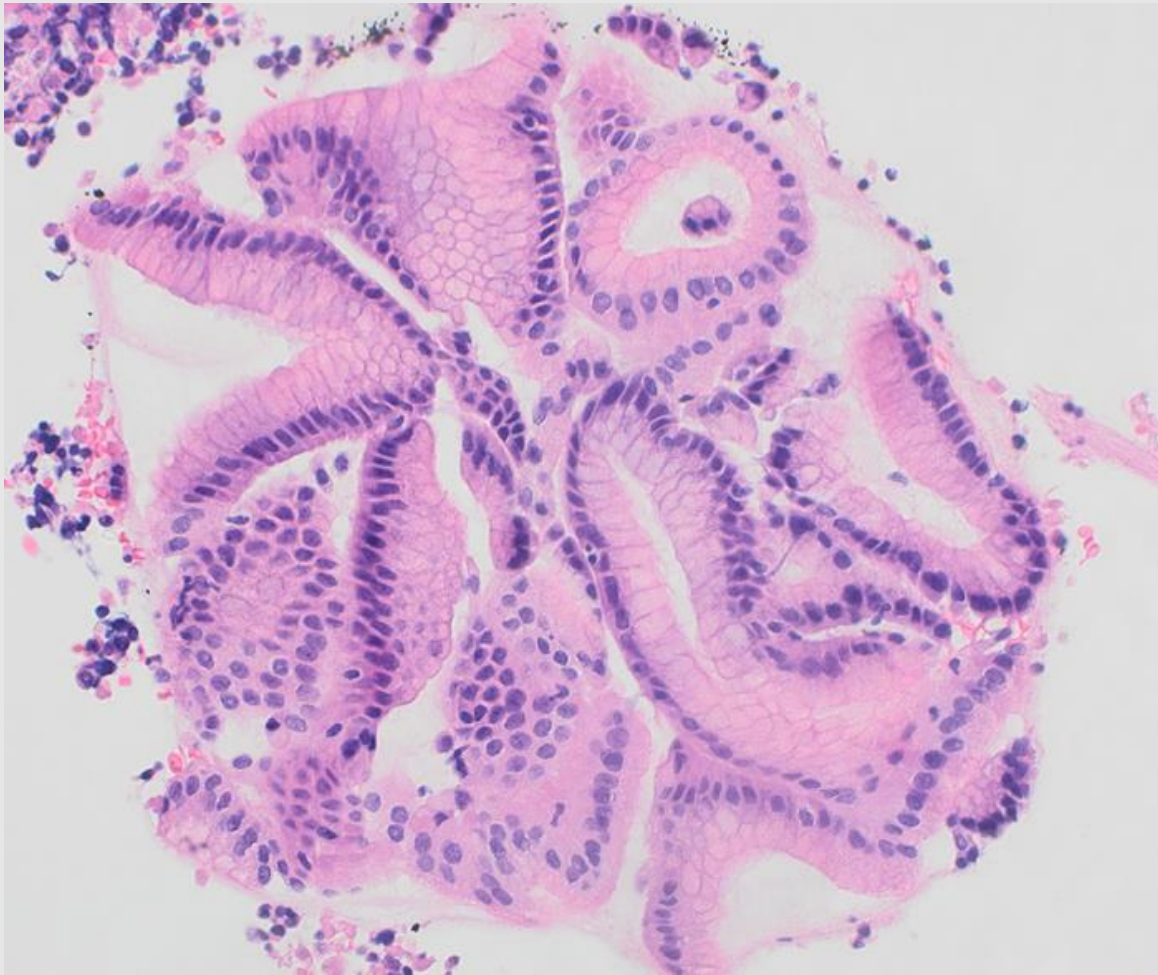


EUS peri gastric node - Pass 1 with ROSE. Pass 2 and 3 straight into formalin



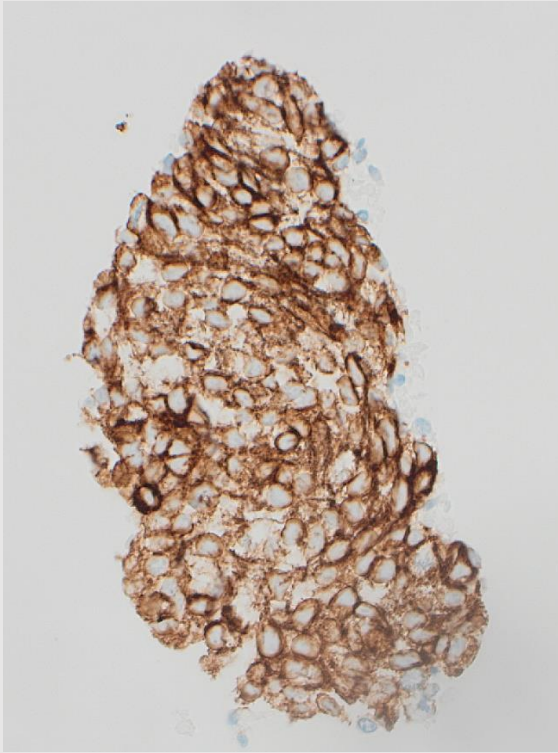


Peri gastric node - 19G cell block

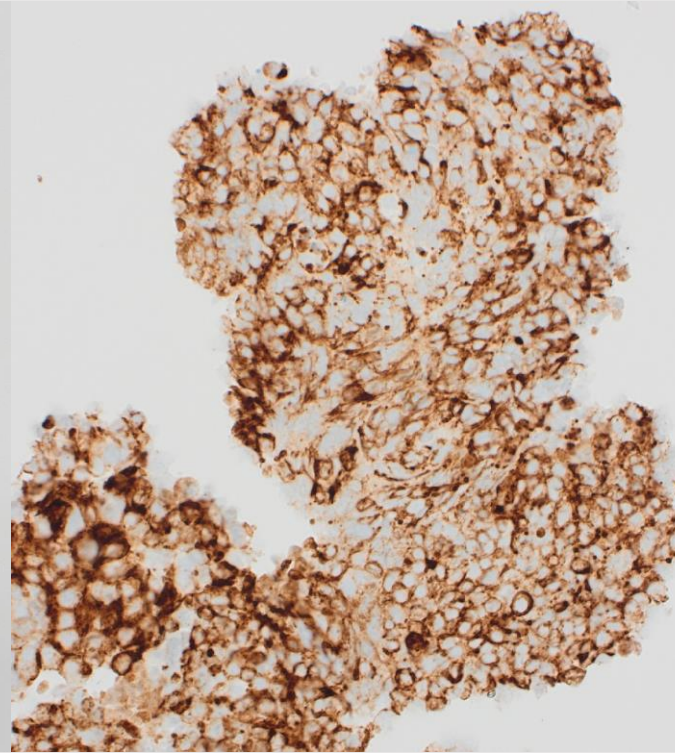


Peri gastric node

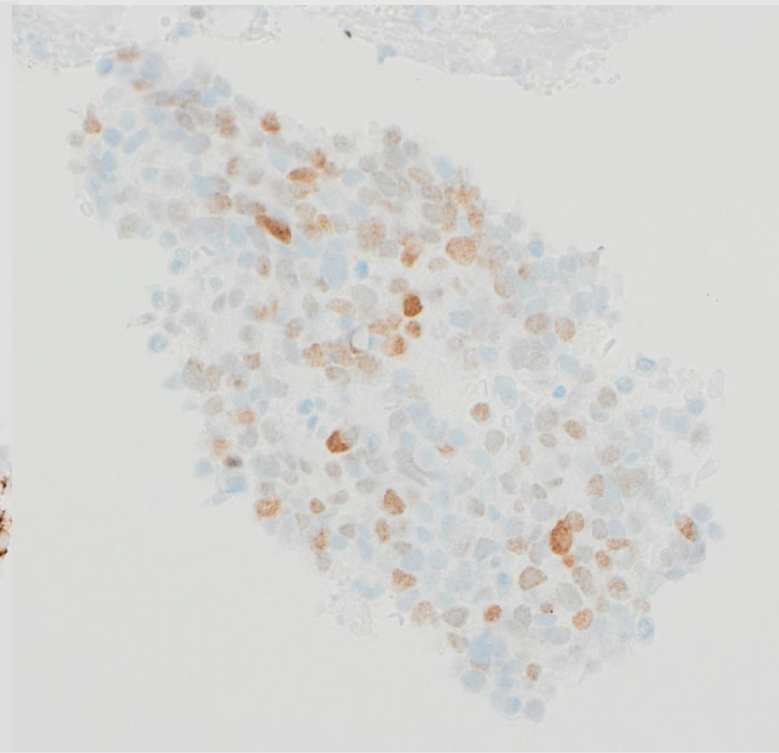
MNF116



CK7



TTF1



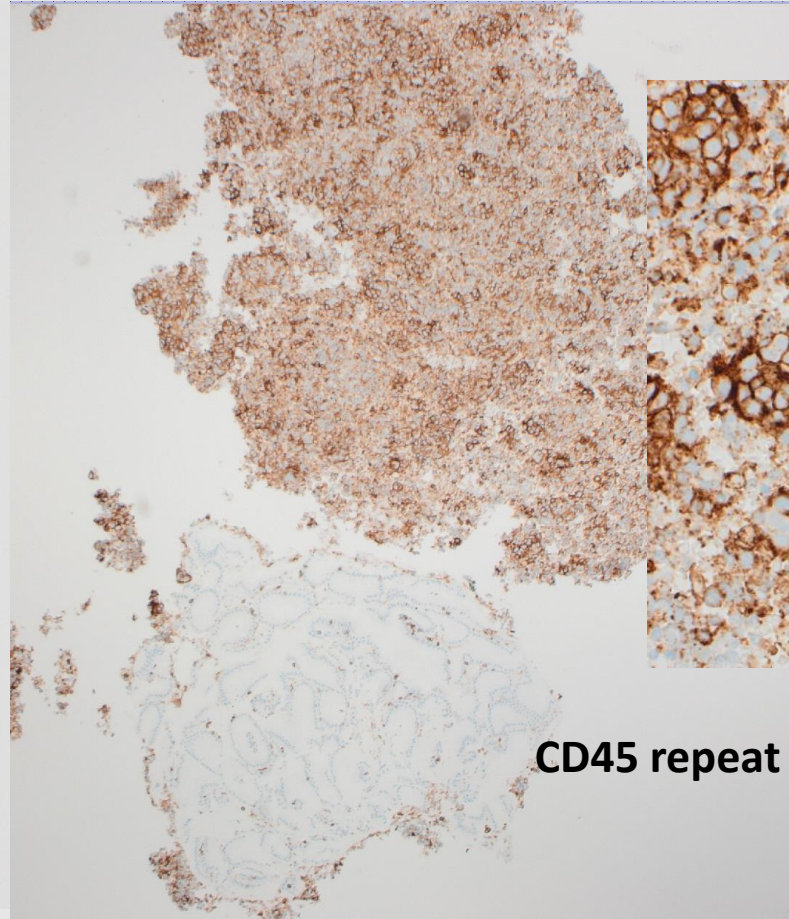
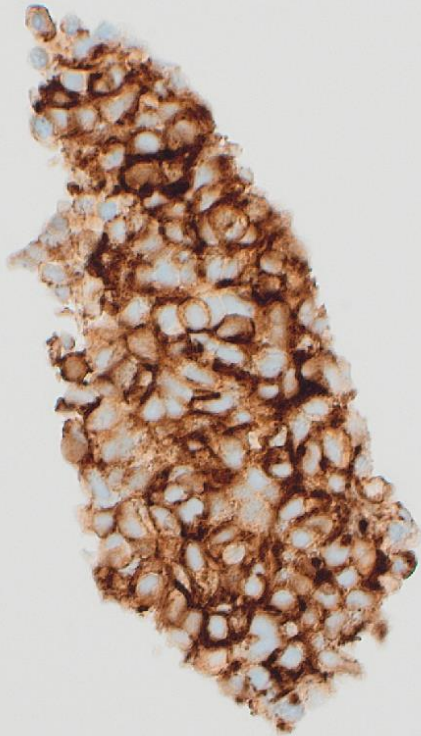
Negative - GATA3, SOX10, CK20, CD56 and synaptophysin

Ki67 expression is seen in 100% of the tumour cells.

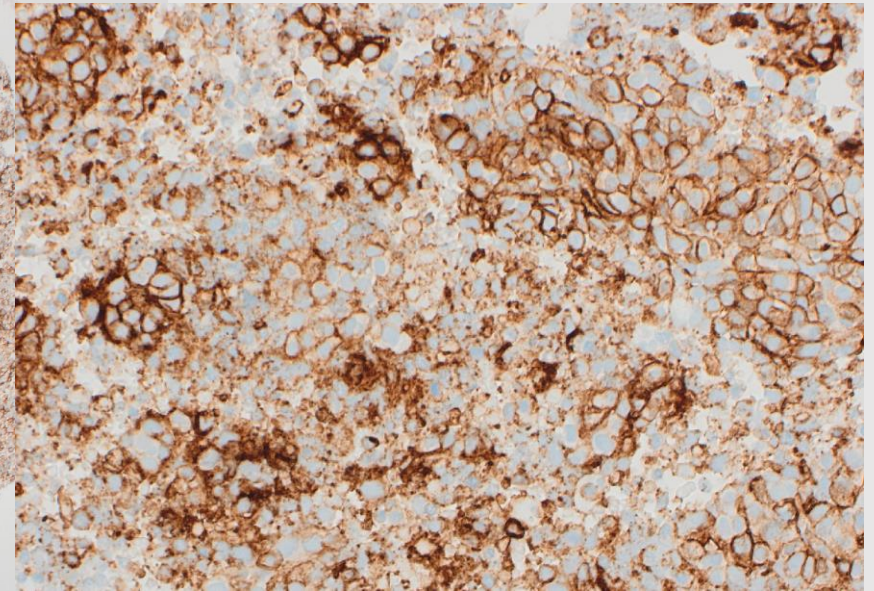
Positive staining for MOC31

Peri gastric node

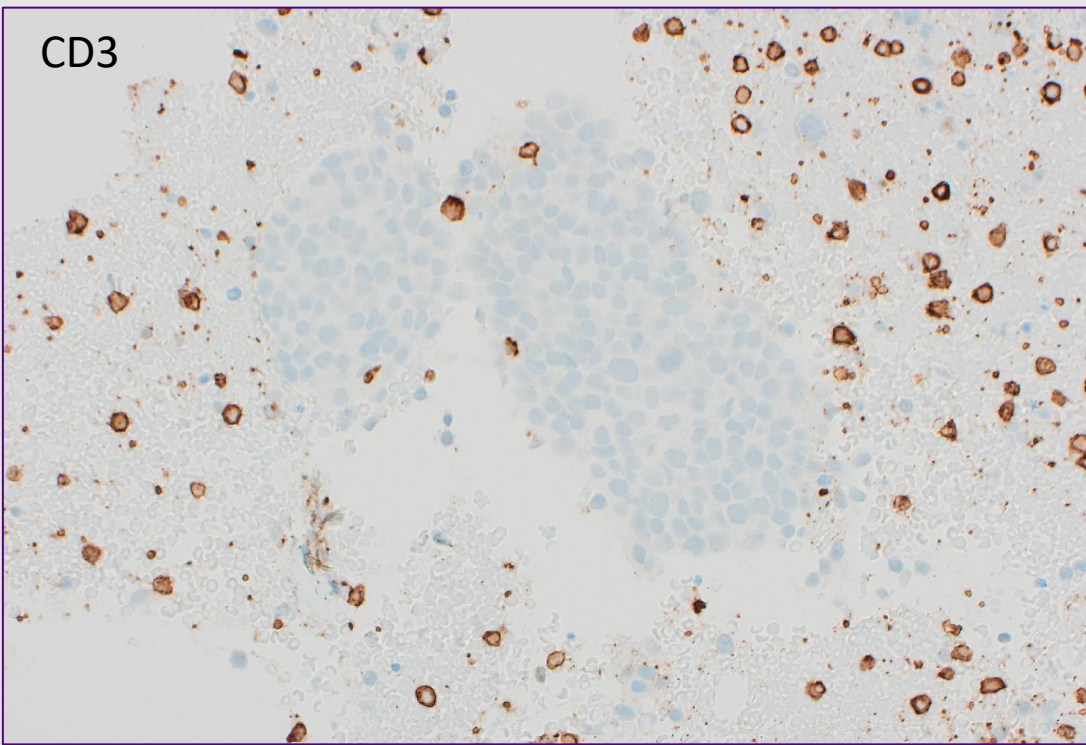
CD45



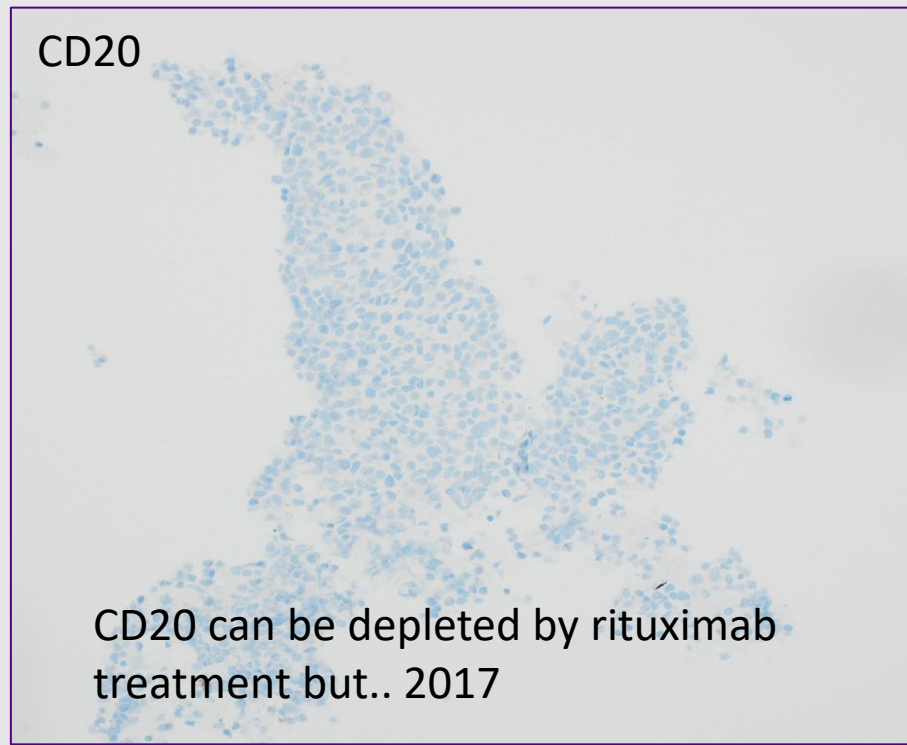
CD45 repeat



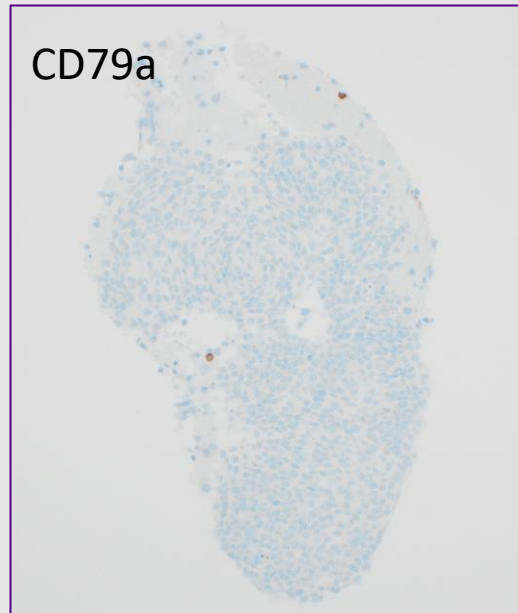
CD3



CD20



CD79a

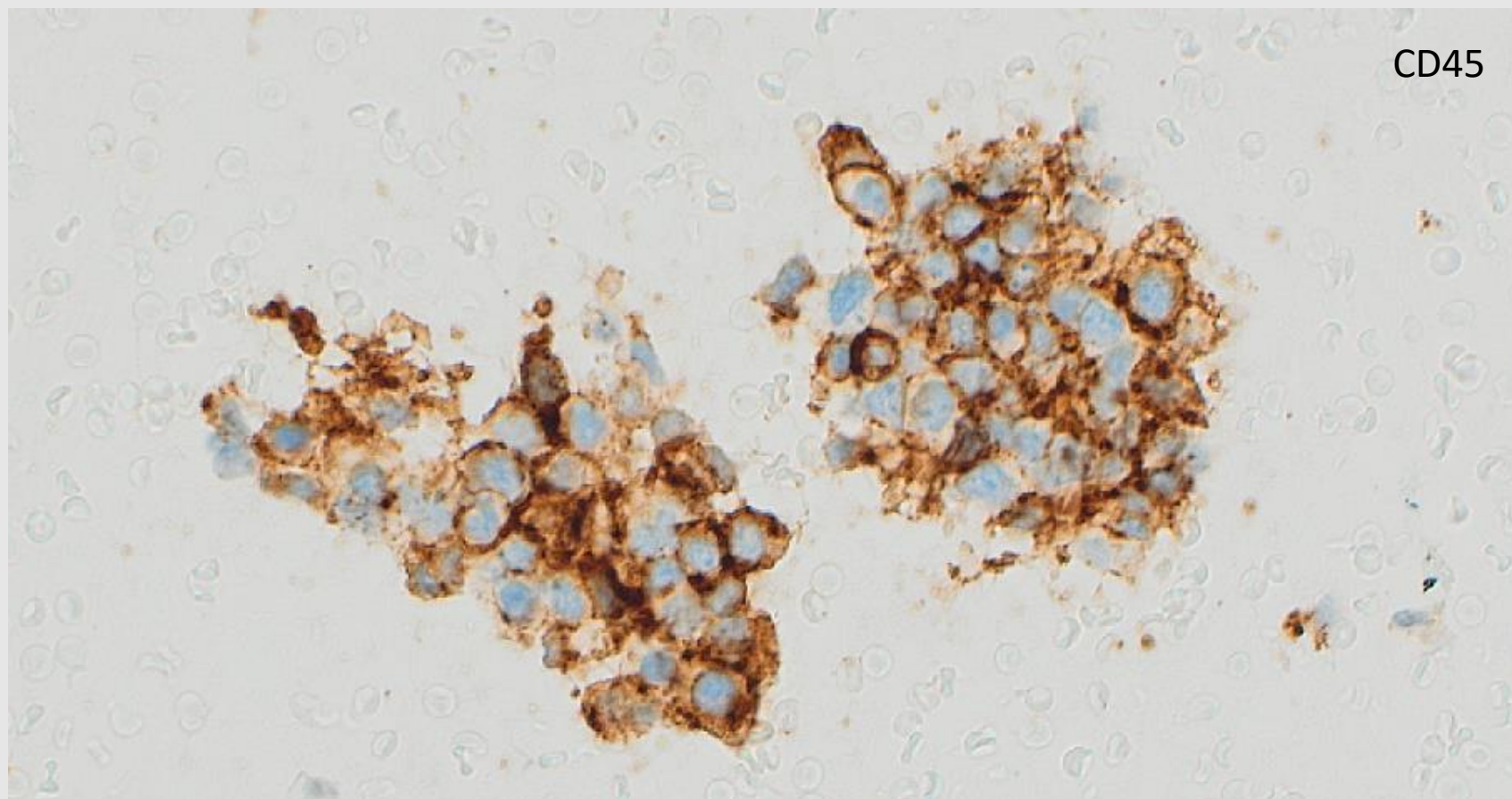


PAX5



Reviewed the previous EBUS sample - poorly-differentiated, TTF1 + lung adenocarcinoma

Small fragments showed aberrant CD45 expression



[J Clin Pathol](#). 2007 Aug; 60(8): 936–938.

doi: [10.1136/jcp.2006.044750](https://doi.org/10.1136/jcp.2006.044750)

PMCID: PMC1994499

PMID: [17660336](https://pubmed.ncbi.nlm.nih.gov/17660336/)

Leucocyte common antigen (CD45) and CD5 positivity in an “undifferentiated” carcinoma: a potential diagnostic pitfall

[Nyethane Ngo](#), [Kaushik Patel](#), [Peter G Isaacson](#), and [Kikkeri N Naresh](#)

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Co-expression of CD45 and cytokeratin markers is rare. In this case, however, negative staining for PAX5, CD3, CD10, CD3 and CD79a, together with positive staining for TTF1 and cytokeratin markers are more likely to represent metastasis from a lung primary carcinoma. The CD45 expression is again regarded as aberrant rather than indicative of a lymphoproliferative disorder. Negative staining for GATA3 and SOX10 makes metastatic breast carcinoma unlikely.

Clinical and radiological correlation is essential - MDT

Next generation sequencing – no fusions or driver mutations detected
Treated with Carboplatin-Pemetrexed – Initial response but progressed
Best supportive care

Key points

Full information regarding history and previous sampling is essential prior to ROSE

Algorithms to aid actions at ROSE – need to know what to do if its outside the scope of the algorithm

Use larger needles for lymphoid / dissociated single cell populations

Shared learning

DON'T PANIC!

Thank you for your time

